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(FILE 'HOME' ENTERED AT 18:40:27 ON 19 FEB 2001)

FILE 'CAPLUS' ENTERED AT 18:41:07 ON 19 FEB 2001
L1 54 S PHENOL OXIDIZING ENZYME
L2 1 S L1 (W) STACHYBOTRYS

FILE 'EUROPATFULL' ENTERED AT 18:51:27 ON 19 FEB 2001
L3 1 S PHENOL OXIDIZING ENZYME
L4 0 S L3 AND STACHYBOTRYS

FILE 'USPATFULL' ENTERED AT 18:54:23 ON 19 FEB 2001
L5 3 S L4

5 ANSWER 1 OF 3 USPATFULL
AN 2001:1624 USPATFULL
TI Phenol oxidizing enzymes
IN Wang, Huaming, Fremont, CA, United States
PA Genencor International, Inc., Rochester, NY, United States (U.S. corporation)
PI US 6168936 20010102
AI US 1999-401476 19990922 (9)
DT Utility
EXNAM Primary Examiner: Achutamurthy, Ponnathapu; Assistant Examiner: Fronda, Christian L.
LREP Genencor International, Inc.
CLMN Number of Claims: 42
ECL Exemplary Claim: 1,41,42
DRWN 10 Drawing Figure(s); 8 Drawing Page(s)
AB Disclosed herein are novel phenol oxidizing enzymes naturally-produced by strains of the species **Stachybotrys** which possess a pH optima in the alkaline range and which are useful in modifying the color associated with dyes and colored compounds, as well as in anti-dye transfer applications. Also disclosed herein are biologically-pure cultures of strains of the genus **Stachybotrys**, designated herein **Stachybotrys** parvispora MUCL 38996 and **Stachybotrys** chartarum MUCL 38898, which are capable of naturally-producing the novel phenol oxidizing enzymes.

Disclosed herein is the amino acid and nucleic acid sequence for **Stachybotrys phenol oxidizing enzyme** B as well as expression vectors and host cells comprising the nucleic acid. Disclosed herein are methods for producing the **phenol oxidizing enzyme** as well as methods for constructing expression hosts.

2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
AN 1999:626312 CAPLUS
DN 131:254318
TI Phenol-oxidizing enzyme from Stachybotrys
IN Amory, Antoine; Wang, Huaming; Dhase, Patrick; Lambrechts-Rongvaux, Annick; Wang, Cynthia
PA Genencor International, Inc., USA
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N009-02
ICS C12N015-53; C12N015-80; C12P021-00
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 10, 41, 43, 46
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9949020	A2	19990930	WO 1999-US6327	19990323
	WO 9949020	A3	19991125		
	W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	WO 9949010	A2	19990930	WO 1999-EP2042	19990323
	WO 9949010	A3	19991229		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9931114	A1	19991018	AU 1999-31114	19990323
	AU 9935995	A1	19991018	AU 1999-35995	19990323
	EP 1064359	A2	20010103	EP 1999-912837	19990323
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
	EP 1066364	A2	20010110	EP 1999-917861	19990323
	R: DE, ES, FR, GB, IT				
PRAI	US 1998-46969	19980324			
	US 1998-218702	19981222			
	US 1999-273957	19990322			
	WO 1999-EP2042	19990323			
	WO 1999-US6327	19990323			

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maybe.

AB Disclosed herein are phenol oxidizing enzymes obtainable from species of Stachybotrys which are useful in modifying the color assocd. with dyes and colored compds., as well as in anti-dye transfer applications. Also disclosed herein are biol.-pure cultures of strains of the genus Stachybotrys , designated herein Stachybotrys parvispora MUCL 38996 and Stachybotrys chartarum MUCL 38898, which are capable of naturally-producing the novel phenol oxidizing enzymes. Disclosed herein is the amino acid and nucleic acid sequence for Stachybotrys phenol

oxidizing enzymes as well as expression vectors and host cells comprising the nucleic acid. Disclosed herein are methods for producing the phenol oxidizing enzyme as well as methods for constructing expression hosts. Disclosed herein are enzyme compns. comprising phenol oxidizing enzymes obtainable from species of Stachybotrys. Based on their color-modifying ability, phenol-oxidizing enzymes of the present invention can be used, for example, for pulp and paper bleaching, for bleaching the color of stains on fabric, and for anti-dye transfer in detergent and textile applications.

ST **phenol oxidizing enzyme Stachybotrys** ; sequence phenol oxidizing enzyme cDNA gene Stachybotrys; bleaching **phenol oxidizing enzyme Stachybotrys** ; textile bleaching **phenol oxidizing enzyme Stachybotrys**; dye bleaching **phenol oxidizing enzyme Stachybotrys**; paper bleaching **phenol oxidizing enzyme Stachybotrys**

IT Detergents
(bleaching; phenol-oxidizing enzyme from Stachybotrys)

IT cDNA sequences
(for phenol-oxidizing enzyme from Stachybotrys chartarum)

IT Detergents
(laundry; phenol-oxidizing enzyme from Stachybotrys)

IT DNA sequences
(of gene encoding phenol-oxidizing enzyme from Stachybotrys chartarum)

IT Protein sequences
(of phenol-oxidizing enzyme from Stachybotrys chartarum)

IT Coloring materials
Dyes
Molecular cloning
Plasmid vectors
Pulp bleaching
Stachybotrys
Stachybotrys bisbyi
Stachybotrys chartarum
Stachybotrys cylindrospora
Stachybotrys dichroa
Stachybotrys kampalensis
Stachybotrys nilagirica
Stachybotrys oenanthes
Stachybotrys parvispora
Stachybotrys theobromae
(phenol-oxidizing enzyme from Stachybotrys)

IT Enzymes, biological studies
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); MOA (Modifier or additive use); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation); USES (Uses)
(phenol-oxidizing enzyme from Stachybotrys)

IT Aspergillus
Aspergillus awamori
Bacillus (bacterium genus)
Bacteria (Eubacteria)
Escherichia
Filamentous fungi
Hansenula
Kluyveromyces
Mucor
Pichia
Saccharomyces
Saccharomyces cerevisiae
Schizosaccharomyces
Trichoderma
Trichoderma reesei
Yarrowia
Yeast
(recombinant expression host; phenol-oxidizing enzyme from

Stachybotrys)

IT 6406-01-5, C.I. Direct Red 21
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(C.I. Direct Red 21; phenol-oxidizing enzyme from Stachybotrys)

IT 2610-05-1, Direct Blue 1
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(Chicago Sky Blue 6B; phenol-oxidizing enzyme from Stachybotrys)

IT 245053-35-4P
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); MOA (Modifier or additive use); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; phenol-oxidizing enzyme from Stachybotrys)

IT 245053-33-2 245053-34-3
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; phenol-oxidizing enzyme from Stachybotrys)

IT 72-57-1, Direct Blue 14 90-05-1, 2-Methoxyphenol 91-10-1, 2,6-Dimethoxyphenol 314-13-6, Direct Blue 53 573-58-0, Direct Red 28 1937-34-4, Direct Red 79 3351-05-1, Acid Blue 113 4399-55-7, Direct Blue 71 6656-03-7, Direct Blue 98 14414-32-5, Syringaldazine 16727-30-3, Malvin 17095-24-8, Reactive Black 5 28752-68-3, ABTS 71872-76-9 149315-82-2, Cibacron Blue C-R 244778-03-8, Cibacron Blue GN-E
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(phenol-oxidizing enzyme from Stachybotrys)

IT 151381-46-3 244773-32-8 245054-53-9 245054-54-0 245054-55-1 245054-56-2 245054-58-4 245054-59-5 245054-60-8 245054-61-9 245054-63-1
RL: PRP (Properties)
(unclaimed sequence; phenol-oxidizing enzyme from Stachybotrys)